

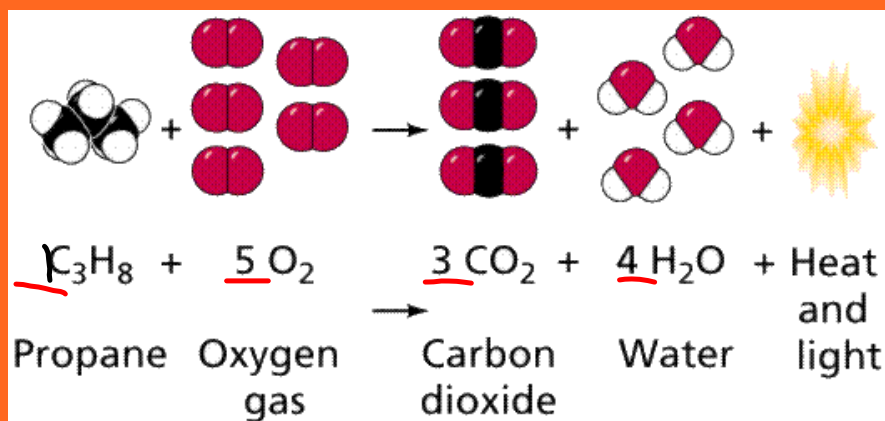
Balancing Chemical Reactions

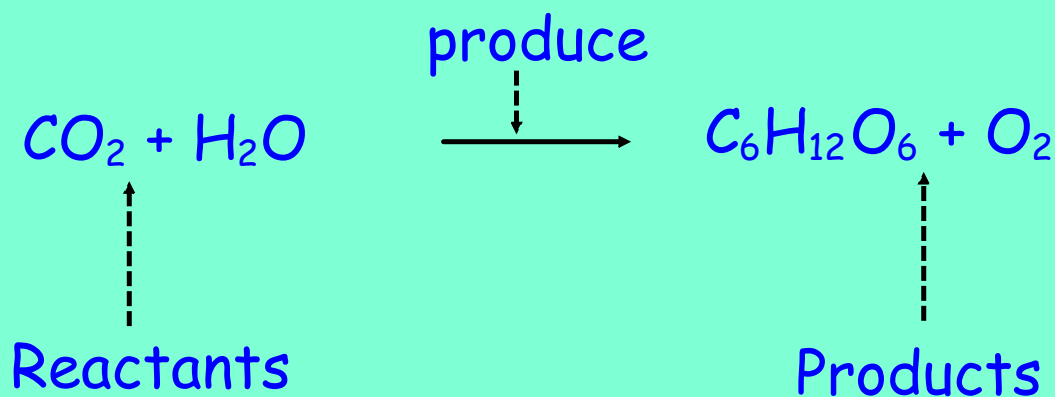
Law of Conservation of Mass

what you start with $\text{Fe} + \text{O} \rightarrow \text{FeO}$

In a chemical reaction, the total mass of the reactants is always equal to the total mass of the products. \leftarrow end result

In other words the number of atoms that you begin with has to equal the number of atoms you end up with.....the atoms are just rearranged in the reaction





The equation above represents the chemical reaction that occurs during Photosynthesis

Notice however that the number of atoms in the reactants do not equal the number of atoms in the products.....this means the equation needs to be

BALANCED

How to balance a chemical equation

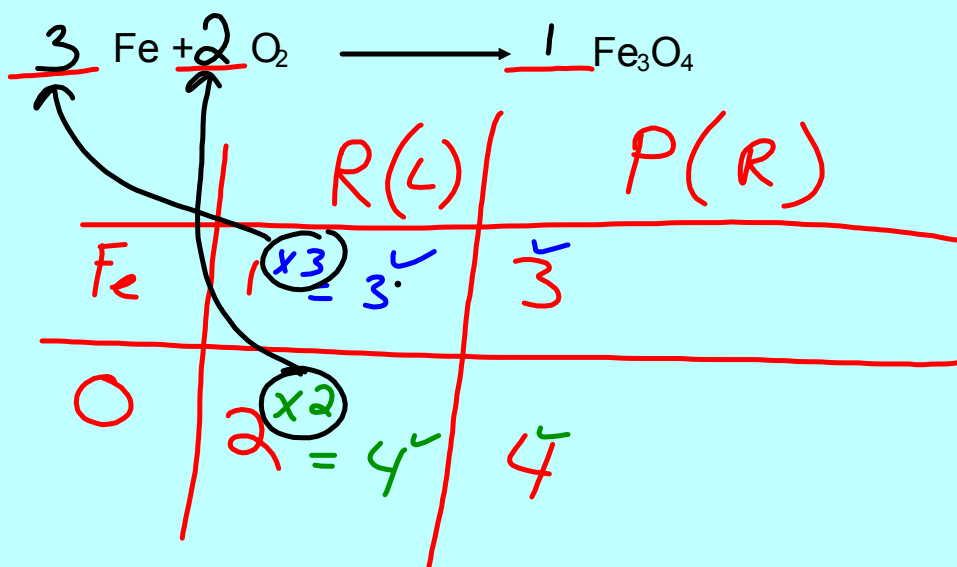
1. Write the skeletal equation. *(this is usually provided)*
2. Count the number of atoms of each type of element in the reactants & in the products.
3. Multiply each of the formulas by the appropriate coefficients
to balance the numbers of atoms.

Make sure coefficients are reduced if they need to be

Example 1:

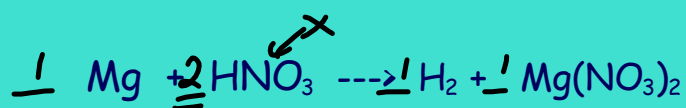


Iron reacts with oxygen to form iron oxide (Fe_3O_4)



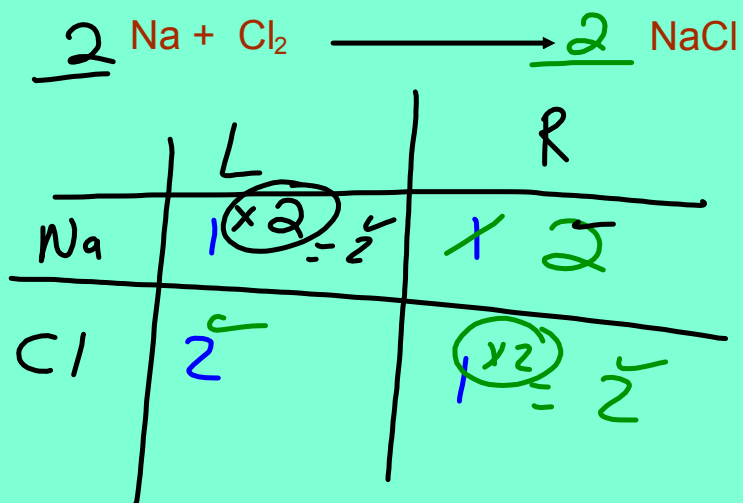
Example 2:

magnesium + nitric acid \rightarrow hydrogen gas + magnesium nitrate

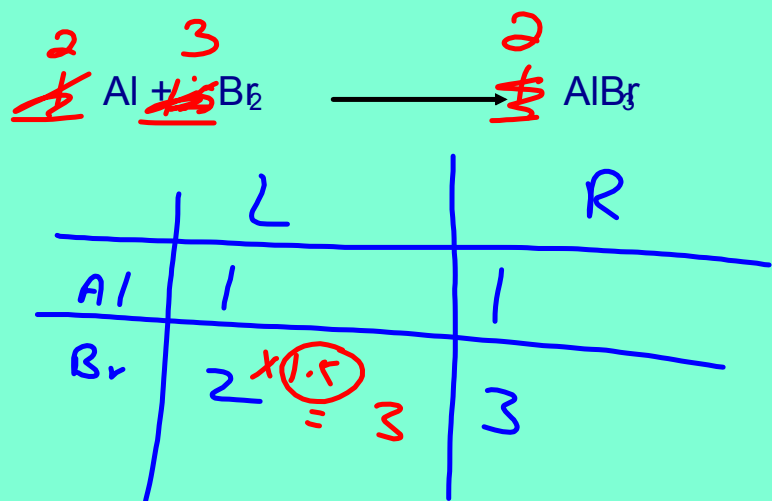


	L	R
Mg	1	1
H	2	2
N	2	2
O	6	6

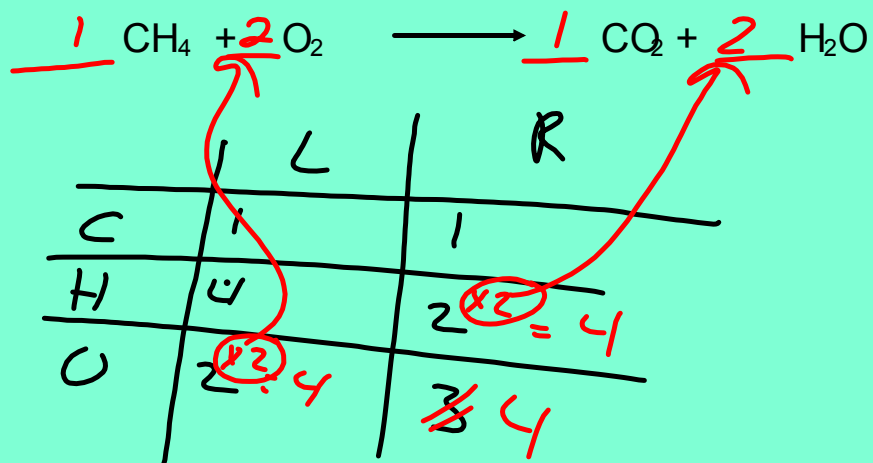
Example 3



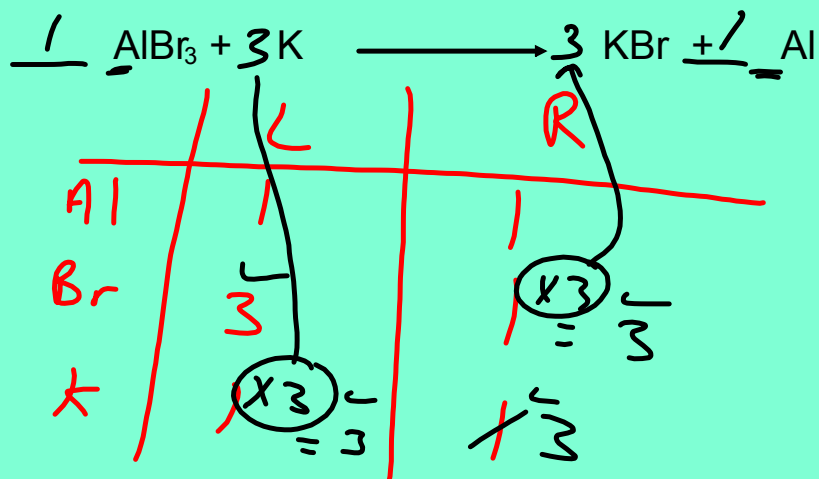
Example 4



Example 5



Example 6



Example 7



Example 8

